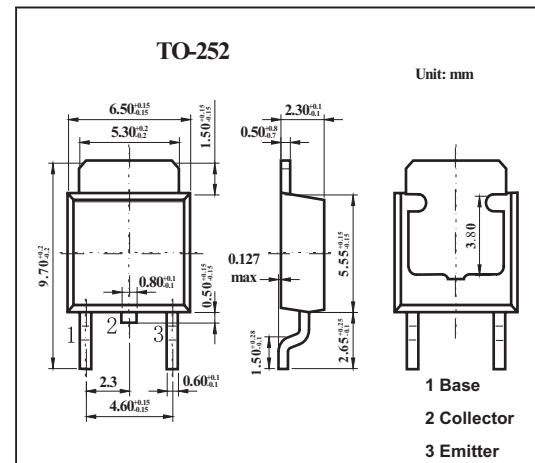


NPN Triple Diffused Planar Silicon Transistor

2SC4003

■ Features

- High breakdown voltage
- Adoption of MBIT process
- Excellent hFE linearity

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

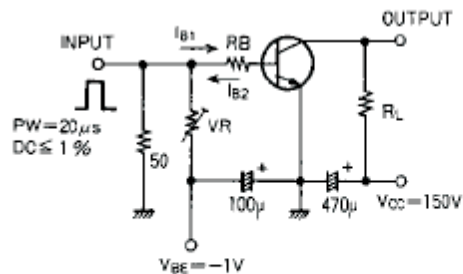
Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CB0}	400	V
Collector to emitter voltage	V_{CE0}	400	V
Emitter to base voltage	V_{EB0}	5	V
Collector current (DC)	I_C	200	mA
Collector current (Pulse)	I_{cp}	400	mA
Total Power dissipation $T_a = 25^\circ\text{C}$ $T_c = 25^\circ\text{C}$	P_C	1	W
		10	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

2SC4003

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
collector cutoff current	IcBO	V _{CB} =300V, I _E =0			0.1	μA
emitter cutoff current	I _E BO	V _{EB} =4V, I _C =0			0.1	μA
DC current Gain	h _{FE}	V _{CE} =10V, I _C =50mA	60		200	
Gain-Bandwidth Product	f _T	V _{CE} =30V, I _C =10mA		70		MHz
C-E Saturation Voltage	V _{CE(sat)}	I _C =50mA, I _B =5mA			0.6	V
B-E Saturation Voltage	V _{BE(sat)}	I _C =50mA, I _B =5mA			1.0	V
C-B Breakdown Voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	400			V
C-E Breakdown Voltage	V _{(BR)CEO}	I _C =1mA, R _{BE} =∞	400			V
E-B Breakdown Voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	5			V
Output Capacitance	C _{ob}	V _{CB} =30V, f=1MHz		4		pF
Reverse Transfer Capacitance	C _{re}	V _{CB} =30V, f=1MHz		3		pF
Turn-ON Time	t _{on}	see specified Test Circuit		0.25		μs
Turn-OFF Time	t _{off}			5		μs

■ Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)

$$10I_{B1} = -10I_{B2} = I_C = 50\text{mA}$$

$$R_L = 3\text{k}\Omega, R_B = 200\Omega \text{ at } I_C = 50\text{mA}$$

■ hFE Classification

Marking	D	E
hFE	60 to 120	100 to 200